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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.       | CONFIRMATION NO.       |
|---|-------------|----------------------|---------------------------|------------------------|
| 10/580,948  | 05/30/2006  | Tatsuo Kataoka       | 1217-061417               | 8887                   |
| 28289   | 7590        | 10/31/2007           |                           |                        |
| THE WEBB LAW FIRM, P.C.<br>700 KOPPERS BUILDING<br>436 SEVENTH AVENUE<br>PITTSBURGH, PA 15219 |             |                      | EXAMINER<br>ARBES, CARL J |                        |
|   |             |                      | ART UNIT<br>3729          | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>10/31/2007   | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/580,948             | KATAOKA ET AL.      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | C. J. Arbes            | 3729                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 5-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>herein</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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Applicants' response to the Office's Restriction requirement has been duly noted. The Office's position re the Restriction Requirement remains unchanged that is, that the Restriction is proper and is correct. In view of this holding and further in view of Applicants' response thereto the Restriction is hereby and now **made Final**. Applicants therefore are required to cancel all non-elected claims or take other appropriate action. An Office Action on the merits of claims 1-4 follows.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

To the extent that Applicants recite ... the base metal layer is treated with a treating liquid capable of dissolving and/or passivating the metal that forms the base metal layer... Claim 1 and each claim that depends therefrom is held to be unclear, vague and indefinite. The metes and bounds of these claims are indeterminable. For example does the treating dissolve the the metal that forms the metal base layer? Does it passivate it? Does it do both? What is a treating liquid that passivates and dissolves a metal? How can a dissolved metal be passivated? The scope of this claim is beyond the Examiner's comprehension and must be clearly and more definitely defined..

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10/580948

ELECTION

The Examiner required restriction under 35 U.S.C. §§121 and 372 as follows:

Group I: Claims 1-4, drawn to a process for producing a printed wiring board;

Group II: Claims 5-10, drawn to a printed wiring board; and

Group III: Claim 11, drawn to a circuit device comprising the printed wiring board and electronic component.

Applicants hereby elect for further prosecution the invention of Group I including claims 1-4, drawn to a process for producing a printed wiring board.

Applicants reserve their right to file at a later time a divisional application directed to the non-elected claims. Pursuant to 37 C.F.R. §1.48(b), there is no change in inventorship as a result of this election.

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Claims 1-4, assuming that these claims are not unclear, vague or indefinite,, are further rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba et al,(Pat. No. 5,369,881); hereinafter Inaba et al.

Inaba et al teach a method for forming a circuit wiring pattern. A surface treatment metal layer (4) e.g Titanium is deposited on at least one surface of an insulating film. Subsequently a metal layer (5) e.g. copper is deposited on the base metal layer. Subsequently a circuit pattern is formed by etching (Cf. Col 4 and Figs. 3) the surface metal layer. After the above recited steps the board can be exposed to an excimer laser beam or to an etching treatment. If indeed Inaba et al do not expressly teach the limitation that the metal layer is treated by a treating liquid capable of dissolving and/or passivating the metal that forms the base metal layer it is held that given the teaching of Inaba et al, coupled with the ordinary skill in this art that is would have been obvious to dissolve and/or passivate the metal. Moreover given the teaching of Inaba et al and the skill in the art it would have been obvious to try to use a treating liquid to dissolve and/or passivate the bas metal layer metal. As further applied to claim 2 it would have been obvious to use Nickel and/or Chromium for the base metal layer given the teaching of Inaba et al. Inaba et al uses Titanium. This is because they wish to use a metal that is more inert or less anodic than copper. I.e. more passivating in character. Chromium/Nickel alloys e.g. certain stainless steels offer the same passivating characteristics and give the teaching of Inaba with this knowledge a PHOSITA would have used these metals i.e. Nickel and/or Chromium to provide a metal layer for Applicants' method.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563.

The examiner can normally be reached on M, T, R and F from 8 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Vo, can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



C. J. Arbes  
Primary Examiner  
Art Unit 3729